**TRANSMITTAL  
FORM***(to be used for all correspondence after initial filing)***Application Number**

10/656,911

**Filing Date**

September 4, 2003

**First Named Inventor**

Jeffery A. Whiteford

**Group Art Unit**

Unassigned

**Examiner Name**

Unassigned

**Total Number of Pages in This Submission**

8

**Attorney Docket Number**

40-003300US

**ENCLOSURES (check all that apply)**

- ☐ Fee Transmittal Form  
☐ Fee Attached  
☐ Amendment / Response  
☐ After Final  
☐ Affidavits/declaration(s)  
☐ Extension of Time Request  
☐ Express Abandonment Request  
☒ Information Disclosure Statement  
☐ Certified Copy of Priority Document(s)  
☐ Response to Missing Parts/Incomplete Application  
☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

- ☐ Assignment Papers (for an Application)  
☐ Drawing(s)  
☐ Licensing-related Papers  
☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition  
☐ Petition to Convert to a Provisional Application  
☐ Power of Attorney, Revocation Change of Correspondence Address  
☐ Terminal Disclaimer  
☐ Small Entity Statement  
☐ Request for Refund

- ☐ After Allowance Communication to Group  
☐ Appeal Communication to Board of Appeals and Interferences  
☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)  
☐ Proprietary Information  
☐ Status Letter  
☒ Additional Enclosure(s) (please identify below):

receipt acknowledgment  
postcard**Authorization to Charge Deposit Account**

Please charge Deposit Account No. 50-0893 for any additional fees associated with this paper or during the pendency of this application, including any extensions of time for consideration of the documents enclosed.

**Remarks****SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT****Firm  
or  
Individual name**

Angela P. Horne, Ph.D., Reg. No. 41,079, Quine Intellectual Property Law Group, P.C.

**Signature**

Angela P. Horne, PhD

**Date**

February 13, 2004

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

**Typed or printed name**

Deborah Berwick

**Signature**

Deborah Berwick

**Date**

February 13, 2004



I hereby certify that this correspondence is being  
deposited with the United States Postal Service  
first class mail in an envelope addressed to:  
Commissioner for Patents, P.O. Box 1450  
Alexandria, VA 22313-1450, on February 13, 2004

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

By

Deborah Berwick  
Deborah Berwick

Attorney Docket No. 40-003300US  
Client Ref. No. 01-003300US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Jeffery A. Whiteford, et al.

Application No.: 10/656,911

Filed: September 4, 2003

For: ORIENTED NANOSTRUCTURES  
AND METHODS OF PREPARING

Examiner: Unassigned

Art Unit: Unassigned

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR § 1.97 and  
§ 1.98

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.



Jeffery A. Whiteford, et al.  
Application No.: 10/656,911  
Page 2

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action on the merits per 37 CFR 1.97(b)(3). However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

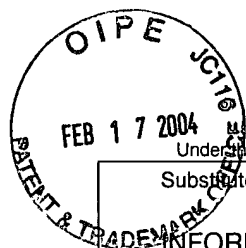
Respectfully submitted,

*Angela P. Horne, PhD*

Angela P. Horne, Ph.D.  
Reg. No. 41,079

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.  
P.O. BOX 458  
Alameda, CA 94501  
(510) 337-7871  
Fax (510) 337-7877

APH:db



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(use as many sheets as necessary)*

## Complete if Known

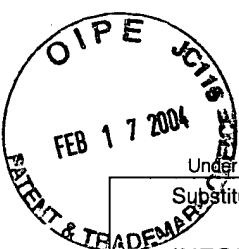
Application Number	10/656,911
Filing Date	September 4, 2003
First Named Inventor	Jeffery A. Whiteford
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	40-003300US
Date Submitted	February 13, 2004

## U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
	1	5,196,396		Lieber	03-23-1993	
	2	5,230,957		Lin	07-27-1993	
	3	5,252,835		Lieber et al.	10-12-1993	
	4	5,274,602		Glenn	12-28-1993	
	5	5,505,928		Alivisatos et al.	04-09-1996	
	6	5,537,000		Alivisatos et al.	07-16-1996	
	7	5,640,343		Gallagher et al.	06-17-1997	
	8	5,690,807		Clark Jr. et al.	11-25-1997	
	9	5,751,018		Alivisatos et al.	05-12-1998	
	10	5,897,945		Lieber et al.	04-27-1999	
	11	5,990,479		Weiss et al.	11-23-1999	
	12	5,997,832		Lieber et al.	12-07-1999	
	13	6,036,774		Lieber et al.	03-14-2000	
	14	6,048,616		Gallagher et al.	04-11-2000	
	15	6,128,214		Kuekes et al.	10-03-2000	
	16	6,136,156		El-Shall et al.	10-24-2000	
	17	6,159,742		Lieber et al.	12-12-2000	
	18	6,190,634	B1	Lieber et al.	02-20-2001	
	19	6,198,655	B1	Heath et al.	03-06-2001	
	20	6,207,229	B1	Bawendi et al.	03-27-2001	
	21	6,225,198	B1	Alivisatos et al.	05-01-2001	
	22	6,239,355	B1	Salafsky	05-29-2001	
	23	6,306,736	B1	Alivisatos et al.	10-23-2001	
	24	6,322,901	B1	Bawendi et al.	11-27-2001	
	25	6,413,489	B1	Ying et al.	07-02-2002	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

## Complete if Known

Application Number	10/656,911
Filing Date	September 4, 2003
First Named Inventor	Jeffery A. Whiteford
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	40-003300US
Date Submitted	February 13, 2004

## FOREIGN PATENT DOCUMENTS

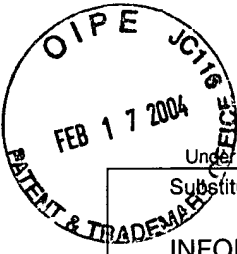
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	26	WO	96/29629	A2	President and Fellows of Harvard College	09-26-1996		
	27	WO	01/03208	A1	President and Fellows of Harvard College	01-11-2001		
	28	WO	02/080280	A1	The Regents of the University of California	10-10-2002		
	29	WO	02/17362	A2	President and Fellows of Harvard College	02-28-2002		
	30	WO	02/48701	A2	President and Fellows of Harvard College	06-20-2002		
	31	WO	03/005450	A2	President and Fellows of Harvard College	01-16-2003		
	32	WO	03/009827	A1	Microban Products Company	02-06-2003		
	33	WO	03/009991	A1	John P. Foustier L.L.C	02-06-2003		
	34	WO	03/27847	A1	Motorola, Inc.	04-03-2003		

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	35	BACHTOLD ET AL. (2001) "Logic Circuits with Carbon Nanotube Transistors." <u>Science</u> 294:1317-1320.	
	36	BJORK ET AL. (2002) "One-dimensional Steeplechase for Electrons Realized" <u>Nano Letters</u> 2(2):86-89.	
	37	CAO ET AL. (2000) "Growth and properties of semiconductor core/shell nanocrystals with InAs cores" <u>Journal of the American Chemistry Society</u> 122:9692-9702.	
	38	CAULDER ET AL. (2001) "Design, Formation and Properties of Tetrahedral M <sub>4</sub> L <sub>4</sub> and M <sub>4</sub> L <sub>6</sub> Supramolecular Clusters." <u>Journal of the American Chemistry Society</u> 123:8923-8938.	
	39	CHEN ET AL. (1999) "Observation of a Large On-Off Ratio and Negative Differential Resistance in an Electronic Molecular Switch" <u>Science</u> 286:1550-1552.	
	40	CHUNG ET AL. (2000) "Si Nanowire Devices" <u>Applied Physics Letters</u> 76(15):2068-2070.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



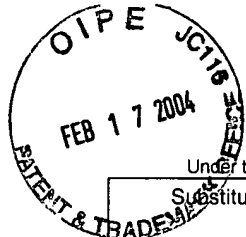
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Substitute for form 1449A-B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>	<b>Complete if Known</b>	
	Application Number	<b>10/656,911</b>
	Filing Date	<b>September 4, 2003</b>
	First Named Inventor	<b>Jeffery A. Whiteford</b>
	Group Art Unit	<b>Unassigned</b>
	Examiner Name	<b>Unassigned</b>
	Attorney Docket Number	<b>40-003300US</b>
	Date Submitted	<b>February 13, 2004</b>

41	COLLIER ET AL. (1999) "Electronically Configurable Molecular-Based Logic Gates." <u>Science</u> 285:391-394.	
42	COLVIN ET AL. (1992) "Semiconductor Nanocrystals Covalently Bound to Metal Surfaces with Self-Assembled Monolayers." <u>Journal of the American Chemistry Society</u> 114:5221-5230.	
43	CUI ET AL. (2000) "Doping and electrical transport in silicon nanowires" <u>Journal of Physical Chemistry B</u> 104(22): 5213-5216.	
44	CUI ET AL. (2001) "Diameter-controlled synthesis of single-crystal silicon nanowires." <u>Applied Physics Letters</u> 78(15): 2214-2216.	
45	DABBOUSI ET AL. (1997) "(CdSe)ZnS core-shell quantum dots: Synthesis and characterization of a size series of highly luminescent nanocrystallites." <u>Journal of Physical Chemistry B</u> 101:9463-9475.	
46	DERYCKE ET AL. (2001) "Carbon Nanotube Inter- and Intramolecular Logic Gates." <u>Nano Letters</u> 1(9): 453-456.	
47	DUAN ET AL. (2000) "General synthesis of compound semiconductor nanowires" <u>Advanced Materials</u> 12:298-302.	
48	GREENHAM ET AL. (1996) "Charge separation and transport in conjugated-polymer/semiconductor-nanocrystal composites studied by photoluminescence quenching and photoconductivity." <u>Physical Review B-Condens Matter</u> 54(24): 17628-17637.	
49	GUDIKNEN ET AL. (2000) "Diameter-selective synthesis of semiconductor nanowires" <u>Journal of the American Chemistry Society</u> 122:8801-8802.	
50	GUDIKNEN ET AL. (2001) "Synthetic control of the diameter and length of single crystal semiconductor nanowires" <u>Journal of Physical Chemistry B</u> 105:4062-4064.	
51	GUDIKNEN ET AL. (2002) "Growth of nanowire superlattice structures for nanoscale photonics and electronics." <u>Nature</u> 415:617-620.	
52	HUANG ET AL. (2001) "Logic Gates and Computation from Assembled Nanowire Building Blocks." <u>Science</u> 294:1313-1317.	
53	HUANG ET AL. (2003) "From 1D chain to 3D network: Tuning hybrid II-VI nanostructures and their optical properties." <u>Journal of the American Chemistry Society</u> 125:7049-7055.	
54	HUANG ET AL. (2001) "Directed Assembly of One-Dimensional Nanostructures Into Functional Networks" <u>Science</u> 291:630-633	
55	HUYNH ET AL. (2002) "Hybrid Nanorod-Polymer Solar Cells." <u>Science</u> 295:2426-2427.	
56	HUYNH ET AL. (1999) "CdSe Nanocrystals Rod/Poly (30hexylthiophene) Composite Photovoltaic Devices." <u>Advanced Materials</u> 11(11): 923-927.	
57	JUN ET AL. (2001) "Controlled synthesis of multi-armed CdS nanorod architectures using monosurfactant system." <u>Journal of the American Chemistry Society</u> 123:5150-5151.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

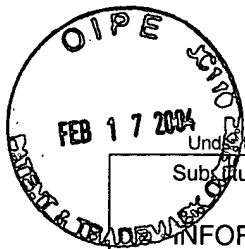
## Complete if Known

Application Number	10/656,911
Filing Date	September 4, 2003
First Named Inventor	Jeffery A. Whiteford
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	40-003300US
Date Submitted	February 13, 2004

58	KONG ET AL. (1998) "Synthesis of Individual Single-Walled Carbon Nanotubes on Patterned Silicon Wafers." <u>Nature</u> 395: 878-881.
59	KONG ET AL (1998), "Chemical Vapor Deposition of Methane for Single-Walled Carbon Nanotubes" <u>Chemical Physics Letters</u> 292:567-574.
60	LEININGER ET AL. (2000) "Self-Assembly of Discrete Nanostructures Mediated by Transition Metals." <u>Chem. Rev.</u> 100:853-908.
61	LIU ET AL. (2001) "Sol-Gel Synthesis of Free-Standing Ferroelectric Lead Zirconate Titanate Nanoparticles." <u>Journal of the American Chemistry Society</u> 123:4344-4345.
62	MANNA ET AL. (2000) "Synthesis of Soluble and Processable Rod-, Arrow-, Teardrop-, and Tetrapod-Shaped CdSe Nanocrystals." <u>Journal of the American Chemistry Society</u> 122:12700-12706.
63	MANNA ET AL. (2002) "Epitaxial growth and photochemical annealing of graded CdS/ZnS shells on colloidal CdSe nanorods" <u>Journal of the American Chemistry Society</u> 124:7136-7145.
64	MORALES ET AL. (1998) "A laser ablation method for the synthesis of crystalline semiconductor nanowires." <u>Science</u> 279:208-211.
65	PENG ET AL. (1997) "Epitaxial growth of highly luminescent CdSe/CdS core/shell nanocrystals with photostability and electronic accessibility." <u>Journal of the American Chemistry Society</u> 119:7019-7029.
66	PENG ET AL. (2000) "Shape control of CdSe nanocrystals." <u>Nature</u> 404:59-61.
67	PUNTES ET AL. (2001) "Colloidal nanocrystal shape and size control: The case of cobalt." <u>Science</u> 291:2115-2117.
68	SCHENNING ET AL. (2002) "Supramolecular Organization of $\alpha,\alpha'$ -Distributed Sexithiophenes." <u>Journal of the American Chemistry Society</u> 124:1269-1275.
69	SCHÖN ET AL. (2001) "Field-Effect Modulation of the Conductance of Single Molecules." <u>Science</u> 294:2138-2140.
70	SCHÖN ET AL. (2001) "Self-assembled monolayer organic field-effect transistors." <u>Nature</u> 413:713-716.
71	SERVICE (2001), "Assembling Nanocircuits From the Bottom Up." <u>Science</u> 293: 782-785
72	SHIMAZAKI ET AL. (1998) "Preparation and Characterization of the Layer-by-Layer Deposited Ultrathin Film Based on the Charge-Transfer Interaction in Organic Solvents." <u>Langmuir</u> 14:2768-2773.
73	STOCKTON AND RUBNER (1997) "Molecular-Level Processing of Conjugated Polymers. 4. Layer-By-Layer Manipulation of Polyaniline via Hydrogen-Bonding Interactions." <u>Macromolecules</u> 30:2717-2725.
74	SU AND MRKSICH (2002) "Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins, and Carbohydrates." <u>Angew. Chem. Int Ed.</u> 41(24): 4715-4718.

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

## Complete if Known

Application Number	10/656,911
Filing Date	September 4, 2003
First Named Inventor	Jeffery A. Whiteford
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	40-003300US
Date Submitted	February 13, 2004

75	THESS ET AL. (1996) "Crystalline Ropes of Metallic Carbon Nanotubes." <u>Science</u> 273: 483-487.	
76	TSENG AND ELLENBOGEN (2001) "Toward Nanocomputers." <u>Science</u> 294: 1293-1294.	
77	URBAN ET AL. (2002) "Synthesis of single-crystalline perovskite nanorods composed of barium titanate and strontium titanate." <u>Journal of the American Chemistry Society</u> 124(7): 1186-1187.	
78	WU ET AL. (2002) "Block-by-block growth of single-crystalline Si/SiGe superlattice nanowires." <u>Nano Letters</u> 2(2): 83-86.	
79	YUN ET AL. (2002) "Ferroelectric Properties of Individual Barium Titanate Nanowires Investigated by Scanned Probe Microscopy." <u>Nano Letters</u> 2(5): 447-450.	
80	ZHOU ET AL. (1997) "Nanoscale Metal/Self-Assembled Monolayer/Metal Heterostructures." <u>Applied Physics Letters</u> 71:611-613.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.